

AHM36B-SDCC012x12

AHS/AHM36

ABSOLUTE ENCODERS





Ordering information

Туре	Part no.
AHM36B-SDCC012x12	1071517

Other models and accessories → www.sick.com/AHS_AHM36

Illustration may differ



Detailed technical data

Performance

Max. resolution (number of steps per revolution x number of revolutions)	12 bit x 12 bit (4,096 x 4,096)
Error limits G	0.35° (at 20 °C) ¹⁾
Repeatability standard deviation $\boldsymbol{\sigma}_{r}$	0.25° (at 20 °C) ²⁾

¹⁾ In accordance with DIN ISO 1319-1, position of the upper and lower error limit depends on the installation situation, specified value refers to a symmetrical position, i.e. deviation in upper and lower direction is the same.

Interfaces

Communication interface	CANopen	
Data protocol	CANopen CiA DS-301 V4.02, CiA DSP-305 LSS, Encoder Profile: - CIA DS-406, V3.2 Class C2	
Address setting	0 127, default: 5	
Data transmission rate (baud rate)	20 kbit/s 1,000 kbit/s, default: 125 kbit/s	
Process data	Position, speed, temperature	
Parameterising data	Number of steps per revolution Number of revolutions PRESET Counting direction Sampling rate for speed calculation Unit for output of the speed value Round axis functionality	
Status information	CANopen status via status LED	
Bus termination	Via external terminator ¹⁾	
Initialization time	2 s ²⁾	

¹⁾ See accessories.

 $^{^{2)}\,\}mbox{In accordance}$ with DIN ISO 55350-13; 68.3% of the measured values are inside the specified area.

 $^{^{2)}}$ Valid positional data can be read once this time has elapsed.

Electrical data

Connection type	Male connector, M12, 5-pin, universal
Supply voltage	10 30 V
Power consumption	≤ 1.5 W (without load)
Reverse polarity protection	✓
MTTFd: mean time to dangerous failure	270 years (EN ISO 13849-1) ¹⁾

¹⁾ This product is a standard product and does not constitute a safety component as defined in the Machinery Directive. Calculation based on nominal load of components, average ambient temperature 40°C, frequency of use 8760 h/a. All electronic failures are considered hazardous. For more information, see document no. 8015532.

Mechanical data

Mechanical design	Solid shaft, Servo flange
Shaft diameter	6 mm ¹⁾
Shaft length	12 mm
Weight	$0.12 \mathrm{kg}^{ 2)}$
Shaft material	Stainless steel
Flange material	Aluminum
Housing material	Zinc
Material, cable	PUR
Start up torque	0.5 Ncm
Operating torque	< 0.5 Ncm
Permissible Load capacity of shaft	40 N / radial 20 N / axial
Moment of inertia of the rotor	2.5 gcm ²
Bearing lifetime	3.6 x 10^8 revolutions
Angular acceleration	$\leq 500,000 \text{ rad/s}^2$
Operating speed	≤ 6,000 min ^{-1 3)}

 $^{^{1)}}$ For adapting to 1.25 m Ecoline wire draw mechanism; only available for multiturn variants.

Ambient data

EMC	According to EN 61000-6-2 and EN 61000-6-3
Enclosure rating	IP65 (according to IEC 60529)
Permissible relative humidity	90 % (Condensation not permitted)
Operating temperature range	-20 °C +70 °C
Storage temperature range	-40 °C +100 °C, without package
Resistance to shocks	100 g, 6 ms (according to EN 60068-2-27)
Resistance to vibration	20 g, 10 Hz 2,000 Hz (according to EN 60068-2-6)

Classifications

ECI@ss 5.0	27270502
ECI@ss 5.1.4	27270502
ECI@ss 6.0	27270590
ECI@ss 6.2	27270590

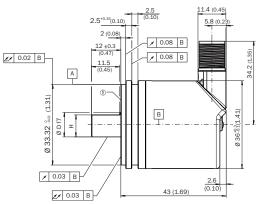
 $^{^{2)}\,\}mbox{\footnotesize Based}$ on devices with male connector.

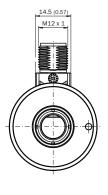
 $^{^{\}rm 3)}$ Allow for self-heating of 3.5 K per 1,000 rpm when designing the operating temperature range.

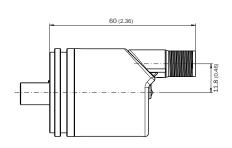
ECI@ss 7.0	27270502
ECI@ss 8.0	27270502
ECI@ss 8.1	27270502
ECI@ss 9.0	27270502
ECI@ss 10.0	27270502
ECI@ss 11.0	27270502
ETIM 5.0	EC001486
ETIM 6.0	EC001486
ETIM 7.0	EC001486
UNSPSC 16.0901	41112113

Dimensional drawing (Dimensions in mm (inch))

Solid shaft, servo flange, male connector, for adapting to $1.25\ m$ Ecoline wire draw mechanism







① Measuring point for operating temperature

PIN assignment



PIN	Signal	Wire colors (cable connection)	Function
1	CAN Shield	White	Screen
2	VDC	Red	Supply voltage Encoder 10 V DC 30 V DC
3	GND/CAN GND	Blue	O V (GND)
4	CAN high	Black	CAN signal
5	CAN low	Pink	CAN signal
Housing	-	-	Screen

Recommended accessories

Other models and accessories → www.sick.com/AHS_AHM36

	Brief description	Туре	Part no.
Other mountir	ng accessories		
a a a	Servo clamps, small, for servo flange (clamping claws, mounting eccentric), 3 pcs, without mounting hardware	BEF-WK-RESOL	2039082
Programming	and configuration tools		
A B · B V	Hand-held programming device for the programmable SICK AHS/AHM36 CANopen encoders, TMS/TMM61 CANopen inclination sensors, TMS/TMM88 CANopen, TMS/TMM88 Analog, and wire draw encoders with AHS/AHM36 CANopen. Compact dimensions, low weight, and intuitive operation.	PGT-12-Pro	1076313
Distributors			
So	Head A: female connector, M12, 5-pin, A-coded Head B: male connector, M12, 5-pin, A-coded 5-pin	DSC- 1205T000025KM0	6030664
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: female connector, M12, 5-pin, straight, A-coded Male connector, M12, 5-pin, straight, A-coded Cable: CAN, Power, 0.5 m	Y-CAN cable	6027647
Plug connecto	ors and cables		
///	Head A: Flying leads Head B: Flying leads Cable: CANopen, DeviceNet™, shielded Wire shield Al-Pt film, overall shield C-screen tin-plated	LTG-2804-MW	6028328
No.	Head A: female connector, M12, 5-pin, straight Head B: Flying leads Cable: CANopen, DeviceNet™, shielded, 2 m A-coded	DOL-1205-G02MY	6053041
	Head A: female connector, M12, 5-pin, straight Head B: Flying leads Cable: CANopen, DeviceNet™, shielded, 5 m A-coded	DOL-1205-G05MY	6053042
	Head A: female connector, M12, 5-pin, straight Head B: Flying leads Cable: CANopen, DeviceNet™, shielded, 10 m A-coded	DOL-1205-G10MY	6053043
	Head A: female connector, M12, 5-pin, straight Head B: male connector, M12, 5-pin, straight Cable: CANopen, DeviceNet™, PUR, halogen-free, shielded, 2 m A-coded	DSL-1205-G02MY	6053044
	Head A: female connector, M12, 5-pin, straight Head B: male connector, M12, 5-pin, straight Cable: CANopen, DeviceNet™, PUR, halogen-free, shielded, 5 m A-coded	DSL-1205-G05MY	6053045
	Head A: female connector, M12, 5-pin, straight Head B: male connector, M12, 5-pin, straight Cable: CANopen, DeviceNet™, PUR, halogen-free, shielded, 10 m A-coded	DSL-1205-G10MY	6053046
	Head A: female connector, M12, 5-pin, straight Cable: CANopen, DeviceNet™, shielded	DOS-1205-GA	6027534

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Brief description	Туре	Part no.
Head A: male connector, M12, 5-pin, straight, A-coded Cable: CANopen, DeviceNet™, shielded	STE-1205-GA	6027533
Head A: male connector, M12, 5-pin, straight Cable: CANopen, unshielded	STE-1205-GKEND	6037193
Head A: male connector, M12, 5-pin, straight Cable: CANopen, unshielded	CAN male connector	6021167

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We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

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For us, that is "Sensor Intelligence."

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